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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/768,697	01/23/2001	Shlomo Shlafman	6727/11204US1	3714

7590 05/06/2005

S. Peter Ludwig  
Darby & Darby P.C.  
805 Third Avenue  
New York, NY 10022

EXAMINER
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WEISBERGER, RICHARD C

ART UNIT	PAPER NUMBER
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3624

DATE MAILED: 05/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/768,697

Applicant(s)

SHLAFMAN ET AL.

Examiner

Richard C Weisberger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 101***

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-21 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Statutory method claims must be tied to the technological arts. The body of the claim must include technology in more than a trivial way. Here, the methods, as claimed, can be performed by hand and are therefor nonstatutory.

### ***Claim Rejections - 35 USC § 112***

2. Claims 1-48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 22-34 are directed to an apparatus comprising a single component, that being a decision processor. Since a decision processor does not have a generally accepted definition and because a definition is not provided in the specification, the claims are indefinite. In the claims, determining a trend predictive of future values is vague and indefinite as to the methodology and algorithm for calculating the trend. In the claims, the method of "recalculating a density function" is vague and indefinite as it is not clear what algorithm or class of algorithms are used in the calculation. Further, recalculating the density function by finding a change in the density functions is vague and indefinite

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as it is a "circular" function. In claim 6 and elsewhere, the limitation - wherein integrating the density function - lacks antecedent basis. Also, in the claims a random variable further limited by a superposition of delta functions is vague as to how the delta functions further limit the random variable. Also, in the claims, "making a trading decision with regard to the derivative" is vague as to the algorithm for making the trading decision. Also, in the claims calculating a strategy function is vague as it is not clear what algorithm is used to calculate the strategy function. In the claims, calculating a multivariate trend with respect to related variables is vague and indefinite as to the algorithm used. Also, in claim 13 and elsewhere, "wherein determining the variance" lacks antecedent basis. Also, the algorithm for calculating the variance by finding a covariance matrix is not clear. Also, making a trading decision by computing the expected value of the asset is vague and indefinite as to the algorithm for making the trading decision. Also, in the claims, calculating the expected yield is vague as to the algorithm. Also, in the claims a path dependent density function is not defined.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1-4, 22-26 and 35-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tucker et al., The Probability Distribution of Foreign Exchange Price Changes.

The reference teaches of calculating and recalculating continuous time density functions by updating the mean and variance of an asset and making a trading decision based on the density function. See, literature review. Inherent in the teaching of this reference are the computer software products for running the described algorithms.

5. This Office action has an attached requirement for information under 37 CFR 1.105. A complete reply to this Office action must include a complete reply to the attached requirement for information. The time period for reply to the attached requirement coincides with the time period for reply to this Office action.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard C Weisberger whose telephone number is 703 308 4408.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vince Millin can be reached on 703 308 1065. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard C Weisberger  
Primary Examiner  
Art Unit 3624

6. Applicant and the assignee of this application are required under 37 CFR 1.105 to provide the following information that the examiner has determined is reasonably necessary to the examination of this application.

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7. In response to this requirement, please provide copies of each publication which any of the applicants authored or co-authored and which describe the disclosed subject matter of claims 1-20.

8. In response to this requirement, please provide the title, citation and copy of each publication that any of the applicants relied upon to draft the claimed subject matter. Please provide the software for practicing the claimed inventions. Please state the specific improvements of the subject matter in claims 1-20 over the background prior art and indicate the specific elements in the claimed subject matter that provide those improvements.

For each publication, please provide a concise explanation of the reliance placed on that publication in distinguishing the claimed subject matter from the prior art.

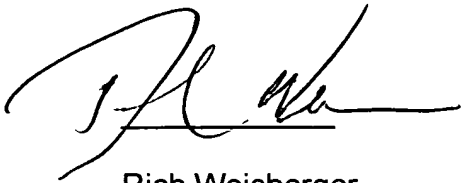
9. This requirement is an attachment of the enclosed Office action. A complete reply to the enclosed Office action must include a complete reply to this requirement. The time period for reply to this requirement coincides with the time period for reply to the enclosed Office action.

10. The fee and certification requirements of 37 CFR 1.97 are waived for those documents submitted in reply to this requirement. This waiver extends only to those documents within the scope of this requirement under 37 CFR 1.105 that are included in the applicant's first complete communication responding to this requirement. Any supplemental replies subsequent to the first communication responding to this requirement and any information disclosures beyond the scope of this requirement

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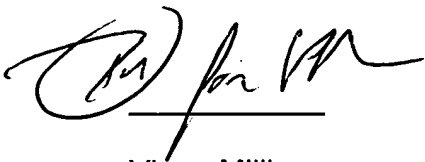
under 37 CFR 1.105 are subject to the fee and certification requirements of 37 CFR

1.97.

A handwritten signature in black ink, appearing to read 'Rich Weisberger', written over a horizontal line.

Rich Weisberger

Primary Examiner AU 3624

A handwritten signature in black ink, appearing to read 'Vince Millin', written over a horizontal line.

Vince Millin

SPE, AU 3624